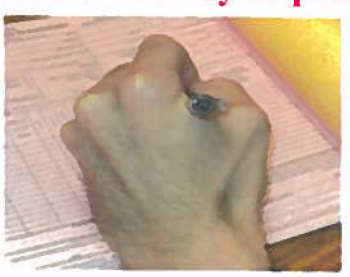
State of Alaska
Department of Environmental Conservation
Division of Environmental Health

From the Office of the State Veterinarian

Featured Articles

Certificates of Veterinary Inspection (CVI) Recap



In the hustle and bustle of a veterinarian busy day, it is often easy to overlook the accurate completion of a Certificate of Veterinary Inspection (CVI). This certificate, however, is more than just another piece of paperwork; it is a legal regulatory document important for protecting the health of our animals, our food source and the public.

January 2012

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The Office of the State Veterinarian (OSV) receives numerous noncompliant CVIs each month and sends violation letters to the issuing accredited veterinarian. The ten most common oversights/omissions on non-compliant CVIs are:

- Missing entry permit number
- Missing Equine Infectious Anemia test date for equines
- Outdated Equine Infectious Anemia test date for equines
- Lack of dates on CVI
- CVIs not received in a timely manner (more than 30 days late)
- Incomplete veterinarian information
- Incomplete name & address of shipper and/or receiver
- Lack of Official Identification for livestock
- Illegible information

Veterinarians should review CVIs for accuracy and completeness before issue. Repeated issue of noncompliant CVIs may jeopardize your participation in the National Veterinary Accreditation Program.

Frequently Forgotten Items on Exports

⇒ Alabama, Kansas & Kentucky require a rabies vaccine every 12 months for dogs.

⇒ Montana requires a permit number for dogs if there has been a change in ownership or dog is traveling without its owner.

⇒ Washington requires the statement for "Newcastle disease for birds traveling there. "To the best of my knowledge, the birds listed on this certificate are not infected with exotic Newcastle disease, psittacosis, or avian influenza and have been free from clinical signs or known exposure to infectious or communicable disease during the past thirty days." also all birds must be individually identified with a numbered leg band in a manner appropriate to the species.

⇒ Washington requires the physical as well as the mailing address to be listed on the CVI or health certificate.
⇒ Indiana requires each species written on its own CVI, several of the same species can be written on one CVI.
⇒ Mississippi requires proper rabies vaccination within six months prior to date of entry.

NVAP

The new National Veterinary Accreditation Program (NVAP) is in place. Participating veterinarians should have received acknowledgement of their selected Category and an assigned six digit National Accreditation Number (NAN). Initial accreditation renewal dates range from early 2013 to 2015. Accreditation renewal requires the completion of three supplemental training modules for Category I veterinarians and six supplemental training modules for Category II veterinarians. Although accreditation renewal dates are still well into the future, USDA currently has six Approved Accreditation Supplemental Training (AAST) modules available at no cost on-line. Additional modules are in development.

Currently available AAST modules are:

Module 1:	Introduction to NVAP
Module 2:	Role of Agencies, Health Certificates
Module 5:	Vesicular Diseases
Module 6:	Exotic Avian Diseases
Module 7:	Foreign Animal Disease Detection in Category 1 Animals
Module 21:	Animals' Fitness to Travel

The link to access the AAST modules is:
http://www.aphis.usda.gov/animal_health/vet_accreditation/aast.shtml

Printed AAST modules are available to order for a fee covering cost of production, handling and shipping. The Order Form for printed AAST is available at:
http://www.aphis.usda.gov/animal_health/vet_accreditation/downloads/nvap_supplemental_training_

International Pet Travel

Requirements to travel internationally change frequently, if unsure or need to verity the requirements please contact the USDA Federal Veterinarian's office at **907-688-1229,** Dr. Rosemarie Lombardi, or Dr. Linda Comerci, can provide the latest information and forms. You may have other telephone numbers, but **please use the main number above** to ensure we receive your messages without delay. You can also contact USDA via email:
Rosemarie.t.lombardi@aphis.usda.gov
Also check for information **on-line at**
USDA International Export Regulations:
http://www.aphis.usda.gov/regulations/vs/iregs/animals/,
USDA Washington Area Office:
http://www.aphis.usda.gov/animal_health/area_offices/states/washington_info.html
or contact the various consulates. http://www.state.gov/s/cpr/rls/fco/

This is very important to prevent pets from being put in unnecessary quarantine, being required to return back to the USA or worst yet being seized and euthanized.

USDA National Center for Animal and Animal Product Import/Export (NCIE) Will Have New Contact Information In 2012

In an ongoing effort to enhance customer service to their stake- holders, the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services ((VS), National Center for Import and Export (NCIE) is pleased to announce that a new centralized call center (NCIE Call Center) will be deployed early in 2012.

Stakeholders will no longer need to find a direct number to any of the many units with the National Center for Import and Export. By dialing only one main number, stakeholders will have the automated ability to choose which unit they need. After the initial automated choices, the first tier will consist of NCIE Call Agents, who initially answer calls and provide general information. If a stakeholder requires more assistance, the call will be elevated to the next level of assistance.

Existing telephone numbers will remain available for a period of 45 days from the date of deployment of the new NCIE Call Center. Before the NCIE Call Center system is deployed, USDA will post to its website the new (non-toll free) telephone number. NCIE constantly strives to improve the service to all their customers.

NOTE: The NCIE Call Center is not outsourced to a private entity - all Call Agents are employees within the National Center for Import and Export.
Office telephone number (845) 838-5500
Fax Number: (845) 838-5516

What Can I Bring Into Canada in Terms Of Food, Plant, Animal and Related Products?

http://www.beaware.gc.ca/english/brirape.shtml
If a client makes an appointment for a health certificate to the lower 48, advise them that they are required, by law, to declare all plant, animal, and food items they bring into Canada. This includes items related to plants, animals and food, or their by-products. If they bring these products into Canada, you may go through further inspections at the point of entry (that is border crossings, airports). Be

prepared for delays if further inspection is required.

Needles and Other Sharps (Safe Disposal Outside of Health Care Settings)

FDA launches website on safe disposal of used needles and other "sharps"

Improperly disposed sharps pose public health risks

The U.S. Food and Drug Administration today launched a new website for patients and caregivers on the safe disposal of needles and other so-called "sharps" that are used at home, at work and while traveling. The website will help people understand the public health risks created by improperly disposing of used sharps and how users should safely dispose of them.

This webpage gives tips for safely disposing (getting rid of) needles and other sharp devices that are used outside of health care settings. Patients and caregivers should keep these tips in mind when at home, at work, and while traveling.

What are Sharps?, Importance of Safe Sharps Disposal
What to Do If You Are Accidently Stuck by a Used Needle Or Other Sharp
What to Do If You Are Accidently Stuck By a Used Needle or Other Sharp **http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/HomeHealthandConsumer/ConsumerProducts/Sharps/ucm20025647.htm**

Caution to Pet Owners – Pet Treats and Toys May Cause Problems for Your Pet

With the holiday season upon us, many pets will receive gifts such as pet treats and toys including chew toys. Each year FDA receives a small number of reports of adverse events associated with pet treats. Pet owners should be aware that occasionally, pet treats and chew toys may cause choking or blockage problems for their pets and may want to monitor their pets for signs of potential problems.

Pet treats that are meant to be consumed are most digestible (edible) when chewed into small pieces; however, rawhide type treats can become very slippery when wet and larger chunks can then become lodged in the back of the animal's mouth or throat, causing gagging, choking, and even death. Through chewing, pet treats and toys may become broken into pieces that may become lodged in your pet's airway or gastrointestinal tract.

The sign(s) that your pet exhibits may help your veterinarian determine where the obstruction has occurred. If pieces of treats or toys are stuck in the back of the throat, your pet may become frantic and you may notice signs such as drooling and choking. Severe airway obstructions are not uncommon, and they should be considered life threatening. This calls for an emergency visit to your veterinarian.

If your pet experiences an esophageal obstruction, you may notice repeated gulping and drooling. Also, your pet may regurgitate undigested food after eating. If something is stuck in your pet's stomach or intestines, your pet may vomit, exhibit depression or a loss of appetite, have abdominal pain, and diarrhea. Chronic obstructions may lead to severe illness and a life-threatening abdominal infection (known as peritonitis.)

If you observe your pet swallowing a piece of a holiday decoration, toy, or small piece of a pet treat, it is important to contact your veterinarian for medical advice. Your veterinarian may take x-rays to evaluate the problem. Veterinarians may also use other procedures (called endoscopic procedures) to remove objects from the esophagus and stomach. Your veterinarian may also need to perform surgery for intestinal blockages.

Please remember to always keep small objects from within reach of your pets and contact your veterinarian if you have concerns about something your pet has swallowed or exhibits symptoms of having a problem.

FDA Continues to Caution Dog Owners About Chicken Jerky Products

The Food and Drug Administration (FDA) is again cautioning consumers that chicken jerky products for dogs (also sold as chicken tenders, strips or treats) may be associated with illness in dogs. In the last 12 months, FDA has seen an increase in the number of complaints it received of dog illnesses associated with consumption of chicken jerky products imported from China. These complaints have been reported to FDA by dog owners and veterinarians.

FDA issued a cautionary warning regarding chicken jerky products to consumers in September 2007 and a Preliminary Animal Health Notification in December of 2008. After seeing the number of complaints received drop off during the latter part of 2009 and most of 2010, the FDA is once again seeing the number of complaints rise to the levels of concern that prompted release of our earlier warnings.

Chicken jerky products should not be substituted for a balanced diet and are intended to be fed occasionally in small quantities.

FDA is advising consumers who choose to feed their dogs chicken jerky products to watch their dogs closely for any or all of the following signs that may occur within hours to days of feeding the products: decreased appetite; decreased activity; vomiting; diarrhea, sometimes with blood; increased water consumption and/or increased urination. If the dog shows any of these signs, stop feeding the chicken jerky product. Owners should consult their veterinarian if signs are severe or persist for more than 24 hours. Blood tests may indicate kidney failure (increased urea nitrogen and creatinine).

Urine tests may indicate Fanconi syndrome (increased glucose). Although most dogs appear to recover, some reports to the FDA have involved dogs that have died.

FDA, in addition to several animal health diagnostic laboratories in the U.S., is working to determine why these products are associated with illness in dogs. FDA's Veterinary Laboratory Response Network (VLRN) is now available to support these animal health diagnostic laboratories. To date, scientists have not been able to determine a definitive cause for the reported illnesses. FDA continues extensive chemical and microbial testing but has not identified a contaminant.

The FDA continues to actively investigate the problem and its origin. Many of the illnesses reported may be the result of causes other than eating chicken jerky. Veterinarians and consumers alike should report cases of animal illness associated with pet foods to the FDA Consumer Complaint Coordinator in their state or go to **http://www.fda.gov/petfoodcomplaints**.

FDA NOTICE: 2011 Recalls and Safety Alerts

December 08, 2011 Advanced Animal Nutrition Recalls Dog Power Dry Dog Food
December 06, 2011 Cargill Animal Nutrition Recalls River Run and Marksman Dry Dog Food
December 06, 2011 P&G Voluntarily Recalls One Production Lot of Dry Dog Food
October 04, 2011 Thumb Oilseed Recalls Soy Flour (Utilized To Manufacture Human and Animal Food) Due To Salmonella Contamination and August 08, 2011 Merrick Pet Care Recalls Doggie Wishbone (Item #29050, Lot 11031 Best by 30 Jan 2013) Because of Possible Salmonella Health Risk

I have MRSA...Should My Pet Be Tested? by Scott Weese

I get this question a lot, from both pet owners and veterinarians. Typically, my answer is "no."

Why not?

The two big questions I always ask are "*why do you want to know and what would you do with the results*?" Sometimes people want to know their pet's MRSA status to see if the pet was the source of their infection.

- However, MRSA in pets is typically associated with MRSA in humans, i.e. if a pet is carrying MRSA, it probably got it from the owner or another close contact. Finding MRSA in a pet after someone is diagnosed with an MRSA infection doesn't mean the pet was the source. More likely, the person got MRSA somewhere else and passed it on to their pet.

Sometimes, people want to know if their pet is at risk of an infection.

- Carrying MRSA presumably increases the risk of an MRSA infection, but likely only in animals already at risk of an infection because of underlying disease or other risk factors such as surgery. The risk to the average pet from short-term MRSA colonization is probably limited. Also, if the pet was identified as a carrier, we wouldn't be doing anything to eliminate carriage, since we have no idea if decolonization therapy is effective in animals, and it doesn't seem to be needed (because dogs and cats almost always get rid of it on their own). Therefore, it's hard to justify screening for this reason. If the animal was getting ready to undergo surgery, then that might change my answer. For me, it's also very important to consider what you'd do with the results of any test. In general, in a household where a person has an MRSA infection:

If the pet tests negative, I'd say that it doesn't 100% guarantee that the pet is truly negative, since no screening test is absolutely 100% sensitive. Also, the test only tells you the status of the pet at the time of sampling. It could have picked up MRSA five minutes after the swabs were taken. So, a negative result means the animal is *probably* negative. Since it's not *absolutely* negative and since the pet would be at risk of picking up MRSA from the infected person after it was tested, I'd recommend close attention to hygiene around the pet (especially good hand hygiene and avoiding contact with the nose) to reduce the chance of the pet becoming colonized and to reduce the risk of MRSA transmission from pet to person if the pet was actually a carrier.

If the pet tests positive, I'd say that we certainly couldn't say the pet was the source of infection. More likely, it got it from the person with the infection. Since we know that MRSA carriage in dogs and cats is almost always transient, and that they will almost always get rid of it on their own if re-exposure is prevented, I'd recommend close attention to hygiene around the pet (especially good hand hygiene and avoiding contact with the nose).

Since my response to either result would essentially be the same, why test?

Efforts are better spent on good household hygiene practices and restricting contact with high risk sites. On both pets and people, this would include the nose, as well as any sites that are infected or sites that are prone to infection (e.g. skin lesions). That's going to be much more worthwhile and rewarding than testing the pet.

Animal Care Standards for the State

The Office of the State Veterinarian is continuing its work to develop animal care standards for the State. These standards will be part of a comprehensive revision of the state animal health regulations. Future public workshops have

been scheduled and will focus on only one animal category at a time. The preliminary round of workshops is just concluding.

Additional workshops will be scheduled and the dates will be posted on the state website: http://www.dec.alaska.gov/eh/vet/AnimalCareWorkshop.html

We want to encourage anyone who is interested to attend workshops by telephone at 1-800-315-6338 (use pass code 8213 when prompted) or in person at the State Environmental Health Laboratory at 5251 Dr. MLK, Jr. Ave, Anchorage, AK, 99507. All meetings will be from 3:30 to 5:00 PM. If you are unable to attend meetings, feel free to submit your comments to us in writing via mail or email.

You can find minutes from previous meetings and agendas for future workshops on our website at: http://dec.alaska.gov/eh/vet under 'Animal Care Standards Workshops'. If you would like to be placed on our group email notification list to receive automatic updates on this project, please email your name, agency (if applicable), and phone number to jay.fuller@alaska.gov.

US: Small Poultry Producer, Processors Scratch to Survive

Just as the local-foods movement is growing legs in the Midwest, a key piece of infrastructure is struggling. Many small poultry-processing plants have closed across the country, in large part because of challenges making a profit in the face of strict regulations and difficulty finding laborers. Without the plants, small farmers say, it's difficult or impossible to provide fresh, locally produced meat to local groceries and farmers markets.

Professor R. Scott Beyer, a poultry specialist at Kansas State University and secretary of the Kansas Poultry Association, said the trend toward fewer plants "is true of all types of meat processing." The wealth of regulations that plants must follow makes it tougher for smaller plants to stay in business, he said. Although Kansas hadn't lost any processors recently, he said, the state has only a couple of state-inspected poultry plants and two federally inspected plants, which usually won't deal with small quantities of birds from a producer. Similarly, Missouri has three state-inspected poultry processors, a state Department of Agriculture official said, and larger federally inspected facilities such as the Tyson plant in Noel. A farm in Versailles also has applied to become a state-inspected poultry processor, so a fourth site could be added.

In addition to being a full-time high school teacher, Ron Bartelt of Grimes, Iowa raises chickens, ducks and turkeys. He started with about 200 birds and now raises several thousand. Now that he has to drive farther to bring his birds to a poultry plant several hours away, Bartelt said he may have to raise the price of his birds. "It's a small niche, I would say. For us producers, it's one of several facets that make up our farming operation," Bartelt said. "It's the consumer, the customer, that's going to really miss out, because it won't be available for them."Bartelt says food safety is incredibly important, but poultry-processing regulations just don't take into account the vast differences between a small plant that sells locally and a giant plant that sells meat across the country. "When you get that large a volume, it's going to take longer to get that product to the consumer, and I can understand why regulations have to get tight," Bartelt said. "But they're making all of us who are small producers … go through the same regulations."

Meat processed at a state-inspected plant, which licenses producers to sell meat within state borders, has to meet federal regulations too. That's because states that have state-inspected processing plants don't get federal support if they don't follow federal meat-processing regulations. And those regulations are getting tighter. "We're now going to be testing for salmonella and campylobacter, and the performance standards have been tightened," said Gary Johnson, head of the Iowa Meat and Poultry Inspection Bureau. So despite demand for "local" chickens and ducks, a fair number of processing plants have shuttered their doors over the years. "It's very tricky, because in some ways it's — no pun intended — a bit of a 'chicken and an egg' thing," said Arion Thiboumery, a meat-processing specialist in Minnesota. For a processor to be successful, "that business needs to have a lot more volume than currently exists in the state, but in order for volume to exist in the state, there has to be a processor."

Notice:
The State Environmental Health Laboratory will be able to process samples for Equine Infectious Anemia and will begin to accept samples on March 1, 2012. Please see the webpage for laboratory submission forms and information on how to send samples to the lab. http://www.dec.alaska.gov/eh/lab/SubmissionManual/LSM_Main.htm

Pet Dogs Can Carry Human Norovirus, Study Shows

While dogs may indeed be man's best friend, it turns out that they also have the ability to harbor one of man's most common enemies - norovirus.

A study out of Finland has shown that pet dogs can carry human strains of norovirus and pass them on to people in the household.

Researchers at the University of Helinski's Department of Food Hygiene and Environmental Health took 92 fecal samples from dogs living in households where either the dog or family members had recently experienced

vomiting or diarrhea - the most common symptoms of norovirus infection. They found human strains of norovirus (HuNov) in 4 of these samples.

Norovirus is the leading cause of gastroenteritis, or what is commonly thought of as stomach flu symptoms, in the United States. It affects 23 million individuals in the country each year. While most cases resolve within a few days, some can be severe and in rare cases fatal.

Prevention of Salmonella Enteritidis in Eggs

The Food and Drug Administration today published final guidance for egg producers to help them further comply with the FDA egg safety rule. The guidance entitled: "Guidance for Industry: Prevention of *Salmonella* Enteritidis in Shell Eggs During Production, Storage, and Transportation" was initially published as draft for comment on August 12, 2010. http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/FoodSafety/ucm285101.htm

The guidance provides recommendations on the following provisions of the final rule: *Salmonella* Enteritidis (SE) prevention measures; environmental testing for SE; egg testing for SE; sampling methodology for SE; and record-keeping requirements for the SE prevention plan. While the rule lists the measures producers must take to comply with the rule, the guidance offers more specific recommendations and options for several of the measures. The final guidance differs from the draft guidance in that it addresses environmental sampling plans for a variety of poultry house styles, as requested by commenters.

The FDA issued the egg safety rule in July 2009, requiring egg producers to have preventive measures in place on the farm during the production of shell eggs and subsequent refrigeration during storage and transportation. On July 9, 2010, the new food safety requirements became effective for egg producers having 50,000 or more laying hens, which represents about 80 percent of production. Producers with at least 3,000 but fewer than 50,000 laying hens must comply with the new rule by July 2012.

FDA Prohibiting Certain Uses in Food-Producing Animals to Protect Certain Antimicrobial Drugs for Treating Human Illness

The U.S. Food and Drug Administration today issued an order that prohibits certain uses of the cephalosporin class of antimicrobial drugs in cattle, swine, chickens and turkeys effective April 5, 2012.

Cephalosporins are commonly used in humans to treat pneumonia as well as to treat skin and soft tissue infections. In addition, they are used in the treatment of pelvic inflammatory disease, diabetic foot infections, and urinary tract infections. If cephalosporins are not effective in treating these diseases, doctors may have to use drugs that are not as effective or that have greater side effects.

FDA is prohibiting what are called "extralabel" or unapproved uses of cephalosporins in cattle, swine, chickens and turkeys, the so-called major species of food-producing animals. Specifically, the prohibited uses include:

- using cephalosporin drugs at unapproved dose levels, frequencies, durations, or routes of administration;
- using cephalosporin drugs in cattle, swine, chickens or turkeys that are not approved for use in that species (e.g., cephalosporin drugs intended for humans or companion animals);
- using cephalosporin drugs for disease prevention.

In 2008, FDA issued and then revoked an order that prohibited extralabel uses of cephalosporins in food-producing animals with no exceptions. Today's announcement responds to public comment and includes the following exceptions, which protect public health while considering animal health needs:

- The order does not limit the use of cephapirin, an older cephalosporin drug that is not believed by FDA to contribute significantly to antimicrobial resistance.
- Veterinarians will still be able to use or prescribe cephalosporins for limited extra-label use in cattle, swine, chickens or turkeys as long as they follow the dose, frequency, duration, and route of administration that is on the label.
- Veterinarians may also use or prescribe cephalosporins for extralabel uses in minor species of food-producing animals such as ducks or rabbits.

The new order of prohibition has a comment period that will begin on Jan. 6, 2012 and close on March 6, 2012. To comment on the order of prohibition, visit www.regulations.gov and enter FDA-2008-N-0326 in the keyword box. Following the comment period, the FDA will consider the comments prior to the order of prohibition going into effect on April 5, 2012.

Comments and questions regarding the new ruling appear below:

- The most important change in the new FDA order is that veterinarians will still be able to prescribe cephalosporins for extra-label use in cattle, swine, chickens, and turkeys for indications not specified in the product label, as long as they follow the dose, frequency, duration, and route of administration on the label. This change should limit objection to the proposed ruling by the cattle and swine industries.
- For example, in cattle, Naxcel is labeled for treatment of bovine respiratory disease and for treatment of foot rot. Under the new regulations, veterinarians could use Naxcel in an extra-label manner for treatment of metritis. In another example, veterinarians could administer ceftiofur for treatment of mastitis without knowledge of the specific causative organism, which was a major complaint from the dairy

dairy industry in the 2008 proposed ban.

- However, there will likely be complaints from the poultry industry on the restrictions on off-label use. Ceftiofur is used in an extra-label manner for treatment by individual injection of *Staphylococcus* and *Pasteurella* in commercial broiler and turkey breeder hens. Because ceftiofur is only labeled for use in day-old turkeys and chickens, it appears the dose for adult birds would be limited to the dose for day-old birds.
- In addition, the proposed ruling would eliminate the extra-label use of ceftiofur *in ovo*. Ceftiofur is labeled for use in day-old turkeys and chickens, but is used in an extra-label manner in the egg prior to hatching to minimize handling and injection stress. This extra-label usage would apparently be banned because it is not a labeled route of administration.

The new ruling states that use of cephalosporins for disease prevention is prohibited. This aspect of the ruling needs clarification. It would appear that some labeled uses of cephalosporins would be banned, and it is not clear if this is the intention of FDA. If the following uses of cephalosporins are banned, there will likely be objections from the affected industry groups:

- Excede®, a ceftiofur product, is labeled "for control of respiratory disease in beef and non-lactating dairy cattle which are at high risk of developing bovine respiratory disease." This use could be construed as disease prevention.
- Naxcel®, a ceftiofur product, is labeled "For control of early mortality associated with *Escherichia coli* organisms susceptible to ceftiofur in day-old chicks and turkey poults." This use could be construed as disease prevention.
- Cephalosporin drugs are used in an extra-label fashion perioperatively to prevent peritonitis and/or incision infections. This use could be construed as disease prevention.

Cephapirin, an older cephalosporin drug, is not covered by the new ruling.

- Cefa-lak®, a cephapirin administered by the intramammary route for treatment of mastitis in dairy cows, is labeled for use every 12 hours. When this drug was approved, most cows were milked twice per day. Today, cows are often milked three times per day and veterinarians often recommend treatment after each milking for three milkings. The exclusion of cephapirin in the new ruling means this off-label use can continue.
- The new ruling states that veterinarians will be able to use cephalosporins in an extra-label manner in minor food animal species (i.e., not cattle, swine, chickens, and turkeys). This aspect of the ruling is important because few drugs are available for use in minor species.

The sentence "If cephalosporins are not effective in treating these diseases, doctors may have to use drugs that are not as effective or that have greater side effects" is confusing (the "not as effective" part implies that cephalosporins are remain effective). Another wording may be "If cephalosporins lose effectiveness in treating these diseases, this will limit treatment options, perhaps resulting in a loss of effective treatments."

Poisonous Plants

Nearly 1,500 plants are known to contain cyanide, generally in the form of sugars or lipids. Cyanic glucoside can be found in varying amounts in Johnson Grass, peach seeds, cherry pits, apple seeds, green beans, bitter almonds, peas, apricots, cassava root, elderberries, flax seeds, choke cherries and bamboo shoots. The bamboo shoot contains the highest amount of cyanic glucoside or cyanide sugar. Ornamental shrubs have been a cause of cyanide poisoning in moose in urban settings in Alaska.

Distinguishing Features

Shrubs or trees with smooth bark marked by lines (lenticels running around the stem; leaves glossy, simple, alternate, lanceolate, usually with a few glands (raised spots) on the petiole (leaf stalk) or on the base of the blade; flowers in clusters, showy and fragrant, appearing in spring; fruit fleshy, usually blue to black (except in peach and apricot) enclosing a pit or stone.

Toxic principle: cyanogenic glycosides or cyanogens (amygdalin, prunasin, dhurrin, linamarin) Hydrogen cyanide (HCN) is formed when the glycosides are hydrolyzed by enzymes in plants or by rumen microorganisms:

$$\text{Cyanogenic glycosides} \xrightarrow{\beta\text{ - glucosidase}} \text{sugar} + \text{aglycone}$$

$$\text{Aglycone} \xrightarrow{\text{Hydroxynitrile lyase}} \text{HCN} + \text{aldehyde or ketone}$$

The glycosides occur in vacuoles in plant tissue while the enzymes are found in the cytosol. Damage to the plant from wilting, trampling, mastication, frost, drought, bruising etc. results in the enzymes and glycosides coming together causing hydrogen cyanide to be formed.

b-glycosideases are also produced by rumen microorganisms. The optimal pH for enzyme activity is near neutrality, so release of HCN is more rapid in the rumen than in the highly acid stomach of monogastrics. For this reason, ruminants are more sensitive to cyanogens than nonruminants.

Cyanide is lethal at dosages of 0.5 to 3 mg/kg b.w. Ingestion of 100 g of wild cherry leaves with ~ 200 mg CN per 100 grams would be lethal to a 100 lb. animal.

*Animals are commonly found dead due to rapidity of cyanide's effect.
* When observed, signs may include excitement, general muscle tremors, dyspnea, salivation, defecation, urination followed by clonic convulsions and death.
*Clinically you may find bright red color to blood and mucous membranes, and detection of plant material in GI tract.
*Diagnosis is confirmed by measurement of cyanide in contents.

Prevention: Check fence rows and pastures for plants and ornamental shrubs that may produce cyanide. If there is any question you can test forage prior to feeding. Cyanide is volatile, so opening bales of hay 24 hours before feeding allows the cyanide to dissipate.

Outbreak Alert Helps in Fighting Equine Disease

When it comes to equine health care, a partnership between horse owners and veterinarians is a must. Equally important is staying informed about potential disease threats that may put a horse's health at risk. That's the reason Merial launched http://www.outbreak-alert.com, a free program used to notify horse owners and veterinarians about reports of equine disease throughout the country.

Since June 2011, the program has provided notification of more than 500 disease reports threatening the overall health and well being of horses. As of late October 2011, those notifications included 52 cases of Eastern equine encephalitis (EEE) in seven states and 69 cases of equine West Nile virus (WNV) in 20 states. Notifications of other preventable diseases such as rabies, Potomac horse fever, and equine influenza have also been shared with concerned horse owners. Cases of the highly contagious equine herpesvirus have also been reported through the program.

"I think the Outbreak Alert program is an excellent way for my clients to stay informed about diseases that might threaten the health of their horses," said Kerby Weaver, DVM, Wilhite & Frees Equine Hospital, Peculiar, Mo. "It is an especially valuable tool for horse owners who travel with their horses because they may not otherwise be aware of potential disease threats in the areas they are traveling to."

UF Veterinarians Hope New Gene Chip Will Help Detect, Treat West Nile Virus in Horses and Humans

A new "gene chip" developed at the University of Florida College of Veterinary Medicine sheds light on brain response in horses infected with West Nile virus and could lead to better ways to diagnose and treat both equines and humans, researchers said.

Using gene sequencing technology, the researchers developed a "brain and immunity chip" to characterize molecular changes in the equine brain during illness and recovery from West Nile virus. The findings were published in the journal PloS One in October*
[*See: http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0024371].

"We hope this will help us understand why some animals and humans become sick and others succumb to the virus resulting in severe illness, lifelong neurological debilitation and even death," said senior author Maureen Long, an associate professor of infectious diseases and pathology. "Knowing this will allow us to come up with treatments that aid in recovery from illness."

Lead author and Long's former graduate student Melissa Bourgeois, created a gene library enriched for neurological and immunological sequences to develop the novel chip, which will help target genes that are active during brain disease states.

FDA Approves First Drug to Treat Cushing's Disease in Horses

The Food and Drug Administration announced today the approval of Prascend (pergolide mesylate) for the control of clinical signs associated with Pituitary Pars Intermedia Dysfunction (PPID or Equine Cushing's disease) in horses. Prascend is the first drug approved for use in horses to treat Cushing's disease, a common disease of older horses that results in significant morbidity and mortality if left untreated.

Pergolide mesylate is a dopamine agonist that is believed to work by stimulating dopamine receptors in horses with PPID. It has been shown to decrease the plasma levels of adrenocorticotropic hormone (ACTH), melanocyte stimulating hormone (MSH), and other pro-opiomelanocortin peptides.

Equine Cushing's disease usually affects horses in their mid-to late-years of life. Diagnosis is made by a veterinarian using a combination of clinical findings and diagnostic testing. Signs of the equine disease include a coat of long curly hair that does not shed properly, excessive water-drinking and urination, abnormal fat distribution, muscle loss, excessive sweating, general malaise, chronic laminitis, and a compromised immune system (which can lead to respiratory ailments, skin infections, hoof abscesses and tooth infections).
http://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm280401.htm

Global Animal Management Launches eyeD™ Equine Identification System

Global Animal Management, a wholly owned subsidiary of Merck and Co., introduced this week the eyeD™ Equine Identification System, a non-invasive, highly accurate and secure equine identification solution based on

the next innovation in equine identification and patient management for veterinarians.

Launched during the 57th Annual Convention of American Association of Equine Practitioners (AAEP) in San Antonio, Texas, the eyeD system is based on iris-scan technology. The system utilizes an eyeD iris scanner, similar to a digital camera to take an infrared picture of a horse's iris. The picture is then assigned an identification code unique to that horse with 99.9 percent accuracy.

eyeD will significantly enhance equine patient management and reveal new efficiencies and revenue streams for veterinary practices," said David Knupp, marketing manager, Global Animal Management. "After 10 years of development, we're very excited to get this technology in the hands of equine veterinarians who can put the technology to work for their clients and their businesses, as well as help identify and reunite lost or stolen horses with their owners."

Non-invasive. Accurate.Secure

eyeD provides veterinarians and their clients with an innovative, non-invasive alternative to the complication and uncertainty of traditional identification methods, such as branding and tattooing.

"Veterinarians now can offer horse owners a non-invasive equine identification system that's very reliable, accurate and repeatable," said Monty McInturff, D.V.M., Tennessee Equine Hospital. "This technology will help veterinary practices save time and prevent mistakes, but what really excites me about eyeD is that it will help us be difference-makers for the good of the horse."

An eyeD iris scanner, which is similar to a digital camera, is used to capture the unique features of the animal's iris to create an eyePrint™. Once connected to a computer with Global Animal Management's proprietary eye-Sync™ software, the eyePrint is sent to the eyeD processor where a unique 15-digit alphanumeric code is created.

New Revenue Streams and Improved Efficiencies

While the initial scanning service and verification of a patient provides a valuable service to clients, it also offers new income streams for practices. These opportunities will continue to generate revenue throughout the lifetime of the patient, including lost-horse identification and retrieval, as well as easy and efficient e-Coggins generation and patient record management through integration with GlobalVetLINK and practice-management software like HVMS.

"eyeD can create a whole new growth strategy for veterinary practices," said Robert Magnus, D.V.M., M.B.A., Wisconsin Equine Clinic and Hospital. "It can create a new revenue stream -- a new way for practices to provide better service. It's not always about money; it's about standards of care, quality and care for the horse, and when those things come together, that's when we have a home run."

The eyeD Equine Identification System also provides a new tool to improve practice operational efficiency by providing a fast and easy way to identify and keep track of patients throughout the care process, helping to link patients to working invoices and reducing the possibility of unauthorized procedures.

"Almost everything we do in equine veterinary medicine and in the horse industry starts with an accurate identification of the horse," said Andrew Clark, D.V.M., M.B.A., Hagyard Equine Medical Institute. "This technology is pretty exciting to me because it is so accurate and repeatable. We can be confident every time we handle a horse that this is the correct horse."

Integration with HVMS and GlobalVetLINK

eyeD is working with GlobalVetLINK, Business Infusions and other leading veterinary practice management software companies to ensure eyeD effectively integrates with these systems. This will make it easier to use eyeD and will help avoid the need to use multiple systems. These partnerships will facilitate easy and efficient Coggins test submissions, certificate creation and reporting, as well as the ability to integrate, keep track of and manage patient records.

"We're very excited to work with Global Animal Management to integrate our Digital EIA (Coggins) Certification & Lab Submission System with the eyeD identification system," said Kate Belashova, product manager for GlobalVetLINK. "This is a great opportunity to deliver better service to equine veterinarian practices by saving them time and money and helping them provide their clients with online access to certificates and lab results."

"HVMS is a natural convergence point for the eyeD platform and, coupled with the recent GlobalVetLINK integration, offers equine veterinarians one more way to advance the way they do business," said Scott Pickard, president and chief executive officer of Business Infusions, makers of HVMS Hospital and Veterinarian Management System.

Global Animal Management is a wholly owned subsidiary of Merck and Co., Inc. For more information on eyeD, please visit veteyeD.com.

Announcements Communications:

My name is Gale Duncan and I am a second-year veterinary student at Washington State University. I was born in Anchorage and raised in Alaska until I left for WSU for undergraduate school. I have experience in a veterinary setting with small animals, horses, beef and dairy cows, small ruminants, and camelids and am interested in mixed animal practice. I will be in Alaska from May to August of 2012 and am looking for any veterinary experience available, especially with large animal and/or equine practitioners in the Anchorage, Eagle River, Wasilla or Mat-Su area. E-mail galeduncan@vetmed.wsu.edu. Phone (509) 339-3785

Collaborative Effort Launches Equine Biosecurity Risk Calculator

Last spring, animal officials nationwide were watching to see if a deadly horse virus outbreak related to horses having attended a Utah cutting competition would spread beyond a handful of Western states and Canada. Horse shows were cancelled, horse owners kept their charges at home, Colorado State University's Veterinary Teaching Hospital banned all non-emergency appointments, and everyone hoped that the highly contagious equine herpes-virus 1 outbreak would abate without sickening or killing more horses.

For many equine owners, it was a sad but important reminder about the importance of biosecurity, particularly protecting their horses at home where they have the most control. A new online Equine Biosecurity Risk Calculator, can now help equine owners assess the biosecurity health of their farms and help to give their horses a healthier future through proper awareness, prevention, and early detection of sick horses.

Live and online now at Biosecurity Calculator*, the interactive tool is an educational resource of Equine Guelph (University of Guelph) developed in collaboration with Colorado State University and sponsored by the American Association of Equine Practitioners Foundation and Vétoquinol Canada Inc. [* See: http://www.equineguelph.ca/Tools/biosecurity_calculator_2011.php]

"The online resource will give equine owners a great starting point by revealing the potential risks currently present on their own farm and the most practical ways to decrease those risks," says Dr. Wayne McIlwraith, Director of the Orthopaedic Research Center at CSU and the AAEP Foundation Chairman. "AAEP Foundation is pleased to collaborate with our partners in Canada and the United States to provide this valuable tool for horse owners in North America."

Recognizing the Threat of Leptospirosis

Cattle, hamsters, and sea lions may seem like an odd combination, but they do have something in common-leptospirosis, a contagious disease found in all farm animals, rodents, and wildlife.

Leptospirosis, which is caused by Leptospira bacteria, is a widespread zoonotic disease transmitted naturally from domestic and wild animals to humans, who can become infected through contact with water, food, or soil contaminated with urine from infected animals.

"The disease in humans can often be an acute infection," says lead scientist Richard Zuerner, a former microbiologist with the Agricultural Research Service's National Animal Disease Center (NADC) in Ames, Iowa. "In areas where it is endemic, like Brazil, it occurs on a periodic basis, and a portion of those infected will experience pulmonary hemorrhage, which can lead to a very rapid and painful death."

Leptospirosis in livestock can cause abortions, stillbirths, reduced milk production, and lower fertility, Zuerner says. In horses, it can also result in uveitis, a potential cause of blindness.

Less is known about leptospirosis in wildlife, such as California sea lions, but scientists are finding out how the disease is spread in these mammals, exploring vaccines for cattle that carry the virus, and using hamsters as models to better understand leptospirosis.

Parasites in Cattle Developing Resistance to Common Dewormers

Parasite populations have changed over the last decade, according to bovine parasitology expert Dr. Lou Gasberre. These changes have resulted in resistance to anthelmintics, or dewormers, in some bovine parasite populations, causing significantly decreased productivity in affected cattle.

"We had become complacent because there was an almost unprecedented run of about 30 years where we had a variety of very affective anthelmintics," said Gasberre in a recent webinar sponsored by Merck Animal Health. The most commonly used anthelmintics have been popular because of their low toxicity to cattle and high efficacy or effectiveness.

In the '80s the use of macrocyclic lactones became widespread, he says. Macrocyclic lactones are the basis for many dewormers, including avermectins (e.g. ivermectin) and milbemycins (e.g. moxidectin). If parasites were suspected as a problem, a macrocyclic lactone drug treatment was (and is) a common and frequently used management tool.

In the late '90s, Gasberre says, there began to be reports of some farms seeing less than the expected response from regular deworming treatments. These anecdotal situations were largely thought to be a result of incorrect dosage or application.

The first time a problem was actually documented, a Wisconsin stock operation reported their findings after following a protocol for 17 years. The farm had tremendous productivity from grass pastures, Gasberre notes, and worked closely with a veterinary consultant to monitor what they were doing. In late 2002 the farm noted some animals doing poorly, with a couple dying on pasture. The diagnosis from the state veterinary lab came back as parasitic gastroenteritis. Up to this point on that farm, parasite control was exclusively through use of macrocyclic lactones.

The United States Department of Agriculture (USDA) decided to do a study the following year to check into the suspected anthelmintic resistance.

They identified a group of 150 animals, divided into six groups rotated over the same pastures (the groups included: no treatment; treatment with one of these four macrocyclic lactones: Cydectin, Dectomax, Eprinex, Ivomec; or treatment with Valbazen, a benzimidazole). Fecal egg reduction counts were done at worming and 14 days post-worming to document the parasite reduction. The expected results in fecal egg count reduction tests at 14 days post treatment, Gasberre pointed out, are a mean reduction of over 90 percent. Every anthelmintic licensed in the U.S. through the Food and Drug Administration (FDA) has to be shown through multiple tests to produce 90 percent fecal egg count reduction. None of the anthelmintics used in this USDA study had even close to 90 percent fecal egg count reduction, although Gasberre said the study was closely monitored and controlled.

Perceptions of Disease by Organic Dairy Producers – Preliminary Results

CONCLUSION

The preliminary data presented in this paper presents new information about perception of disease by farmers on conventional herds that utilize confinement and intensive grazing practices and contrasts outcomes with similar herds that are certified organic dairy producers.

The data presented is preliminary and final conclusions should be withheld until a more complete analysis is completed, however it is apparent that farmers of all management types primarily utilize passive surveillance systems to detect disease. Methods of screening and detection of disease are similar among all management systems. A surprising large proportion of farmers enrolled in this study did not recognize or understand a definition of subclinical mastitis indicating that educational efforts for this disease need to be intensified for this demographic.

When symptoms of disease are noted in an animal, few producers will initially call a veterinarian. The occurrence of pneumonia in adult cows of ORG farms was less frequently recognized by ORG farmers as compared to CON grazers or CON confinement operations. Additional analysis using this dataset will explore the incidence of selected diseases in the prospective follow up period and identify risk factors related to disease.

FDA Approves VFD Therapy for Cattle BRD

The Food & Drug Administration has approved its Pulmotil (tilmicosin) as a treatment for groups of cattle in the early stages of a bovine respiratory disease (BRD) outbreak to provide 14 days of "sustained in-feed therapy, a practice that reduces stress associated with cattle handling," according to an announcement from Elanco Animal Health.

Elanco said Pulmotil is approved for the control of BRD associated with Mannheimia haemolytica, Pasteurella multocida and Histophilus somni in groups of beef and non-lactating dairy cattle where active BRD has been diagnosed in at least 10% of the animals in the group.

Similar to the prescription requirement for injectable products, FDA requires a veterinarian to issue a veterinary feed directive (VFD) for the use of Pulmotil. VFDs help ensure veterinarian oversight and judicious use of Pulmotil according to the label use and feeding directions, the announcement said, noting that the VFD process requires a coordinated effort by the producer, feed-ingredient supplier, veterinarian and nutritionist. Elanco will help facilitate this process through training and ongoing support.

Before making the product widely available, Elanco said it will conduct additional commercial trials and work closely with veterinarians and their clients to develop protocols that support the VFD process and maximize Pulmotil's value in a variety of commercial settings.

Animal Traceability

The United States Department of Agriculture (USDA) recently published a proposed animal disease traceability rule that will require official identification and an Interstate Certificate of Veterinary Inspection (ICVI) or other documentation for interstate movement of certain livestock. Interstate movements have the greatest potential impact on disease spread nationally. The regulations will authorize specific forms of official identification for each species which should be accepted by all States. The current regulations for horses, captive cervids (e.g. deer and elk), sheep, goats, swine and poultry will change very little.

Although the proposed rule will define official identification for several species, cattle are the initial target species. For cattle, the proposed rule recognizes the following devices as official identification: Animal Identification Number devices (840 tags); National Uniform Eartagging System tags (silver and orange metal tags with the state code); and Location-Based Number (an official premises identification number with a unique herd management number). Other forms of identification may be acceptable when agreed upon by animal health officials in the movement state of origin and state of destination including, but not limited to, brands, tattoos and breed registry certificates.

Current interstate movement regulations require individual identification of sexually intact cattle (breeding animals) over 24 months of age. The new proposal requires individual identification of all dairy, rodeo and show cattle 18 months of age and older. There is to be a phase-in of official identification requirements for cattle less than 18 months of age.

The rule provides some identification requirement exemptions, such as a commuter herd with a copy of the commuter herd agreement; and movement of cattle less than 18 months of age between any two States with documentation other than an ICVI (i.e. brand inspection certificates) agreed upon by animal health officials in the two States.

The proposed rule also has a provision to prevent retagging an animal with a similar official device. For instance, if an animal has a USDA-issued "silver brite" metal tag, application of a second "silver brite" tag will not be permitted. The rule does not allow for an ICVI to have an attachment listing official identification numbers, which could present difficulties for producers using the 15 digit 840 numbers and capturing the identification information electronically.

States, working closely with local producers, will be responsible for implementing a traceability system that will achieve national traceability performance standards. Each State must develop a three year roadmap to implement the new regulation and we continue to work with producers on developing a process in AK.

Lack of U.S. Animal ID System to Cost Beef, Pork Industries Millions: Study

The U.S. beef- and pork-export industries would lose hundreds of millions of dollars if the United States doesn't implement an animal identification system that stands up to increasingly robust counterparts in international markets, according to a study released today by the U.S. Meat Export Federation.

Conducted by researchers at Kansas State University, Colorado State University and Montana State University, the study assesses the potential economic impact on U.S. producers and processors of evolving thinking about animal ID and traceability in leading export markets and traceability systems that have already been put in place by other major beef and pork exporting countries.

The United States and India are the only two major beef exporters that do not already have mandatory traceability systems. Argentina, Brazil, Australia, New Zealand, Canada and Uruguay already do. Funded by USDA's Market Access Program, the study found, for example, that the beef and pork industries would lose $1.8 billion and $518 million, respectively, over a 10-year period if the United States does not expand domestic traceability.

Livestock Veterinarians at High Risk of Acquiring Methicillin-Resistant Staphylococcus Aureus ST398

The prevalence and risk factors associated with livestock-associated MRSA (LA-MRSA) carriage was examined in Danish and Belgian veterinarians. The MRSA and LA-MRSA carriage rates were 9·5% (95% CI 5·3–15·6) and 7·5% (95% CI 3·8–13·1) for MRSA and LA-MRSA, respectively, in Belgium and 1·4% (95% CI: 0·17–5·05) in Denmark (all Danish MRSA isolates belonged to the LA-MRSA genotype).

All LA-MRSA isolates were resistant to tetracycline and 53·4% (7/13) showed a multi-resistant phenotype. LA-MRSA was significantly associated with veterinarians in contact with livestock (P=0·046). In the multivariable analysis, working with small animals in a veterinary clinic seems to be negatively associated (OR 0·15, 95% CI 0–1·0, P=0·05) and a strong direct association was found for LA-MRSA acquisition and exposure to live pigs (OR 12·1, 95% CI 1·6–548·5, P=0·01). Since carriage of MRSA ST398 may increase the risk of complications during hospitalization, our results underline that preventive measures may need to be developed for veterinary professionals, particularly for livestock veterinarians.

Combatting Cattle Disease

There is an old adage that says an ounce of prevention is worth a pound of cure. When it comes to using vaccines to help control and prevent the spread of disease in animals, that saying rings true.

Vaccinating animals not only improves the overall health of livestock but also reduces the high costs involved in treating animals that become ill. However, some vaccines don't work very well or lose efficacy over time, and new vaccines are needed

Scientists at the Agricultural Research Service (ARS) are addressing these issues by developing more effective vaccines to combat troublesome diseases like anaplasmosis in cattle.

Also known as yellow bag or yellow fever, this disease can be difficult to detect, especially in the early stages. Clinical symptoms are very seldom seen in young cattle because they are replacing red blood cells at a faster rate than older cattle.

Mainly spread by ticks, the pathogen invades and destroys red blood cells of cattle and other ruminant hosts. Severe infections cause anemia, weight loss, abortions, and sometimes death - the latter being the fate of 50,000 to 100,000 U.S. cattle annually. Those surviving the disease become lifelong carriers, endangering other herd members and impeding U.S. cattle trade.

While ticks and blood-sucking insects are the primary culprits for spreading the disease, proper hygiene can significantly reduce the risk of contamination from equipment especially during castration, implanting, vaccinating, and dehorning.

Though antibiotics can kill A. marginale, a vaccine for cattle would keep the pathogen from infecting the animals to begin with. But besides posing safety issues, vaccination has been hampered by uneven performance, and there is currently no widely accepted vaccine. A contributing factor is A. marginale's ability to reconfigure its surface proteins and to evade detection by an animal's immune system.

An answer may be on the way. ARS molecular biologist Susan Noh, who is based at the Animal Disease Research Unit in Pullman, Washington, collaborated with scientists at Washington State University to identify significant proteins to include in a potential vaccine that is being tested on animals. They found that small groups of the outer surface proteins of A. marginale induce an immune response that reduces symptoms and also prevents A. marginale infection in some animals.

Among the vaccines being tested, some of those with the most potential have protected 80% to 90% of the animals from clinical disease and have prevented infection in up to 40% of the animals, Noh says.

From Field to Pet: Transferring Wildlife Contraceptive Technologies for Use in Companion Animals

Since 1992, scientists at APHIS' National Wildlife Research Center (NWRC) have worked collaboratively with State and Federal agencies, universities, zoos, international organizations, and private partners to develop, test, and register wildlife contraceptives for use in wildlife damage management. Some of the products investigated have been previously employed in human medicine or in farm animal production. Some are dispensed as vaccines and others as oral baits. Regardless of the origin, when used in conjunction with traditional management methods, contraceptives are a promising new wildlife management tool.

Not surprisingly, some of the technologies used to develop contraceptives for wildlife have also proven to be effective in domestic animals. The GonaConTM Immunocontraceptive Vaccine (GonaCon) is the first singleshot, multi-year immunocontraceptive vaccine for use in mammals. It was developed by NWRC scientists and registered in 2009 by the U.S. Environmental Protection Agency for use in female white-tailed deer. It has also been shown to be effective in a variety of mammal species, including feral horses, prairie dogs, ground squirrels, feral dogs and cats, and bison. GonaCon works by inhibiting the production of sex hormones. All sexual activity is decreased and the animal remains in a nonreproductive state as long as sufficient levels of the antibody are present.

Because it works in numerous species, GonaCon has attracted the interest of the private sector, particularly those involved in veterinary medicine. For example, GonaCon has been proposed as an alternative to surgical sterilization in pets, such as cats and dogs. The Humane Society of the United States estimates that 78 percent of the 78.2 million owned dogs and 88 percent of the 86.4 million owned cats in the United States are spayed or neutered. Sterilizing pets with a shot instead of surgery would transform the way pets are cared for in the United States. In addition, another company is pursuing the use of GonaCon for the prevention of adrenocortical disease (ACD) in domestic ferrets. Potential demand for GonaCon to treat ACD in the United States exceeds a million doses per year. NWRC promotes business development through the transfer of technologies, such as GonaCon, to the private sector. As such, NWRC is currently negotiating licensing with several private companies for the production of GonaCon for wildlife and domestic animal reproductive and disease control. For more information regarding GonaCon, please visit the NWRC website.

Livestock Remain Drug-Resistant Years After Stopping Antibiotics

A study of Canadian pigs found bacteria in the animals remained resistant to antibiotics long after farmers stopped dosing them. Scientists are researching the implications for hospitals and the human food supply. A study of Canadian pigs found bacteria in the animals remained resistant to antibiotics long after farmers stopped dosing them. Scientists are researching the implications for hospitals and the human food supply.

Livestock farms that stop using antibiotics may still be breeding grounds for drug-resistant germs, according to a new study. Scientists have found that bacteria in a group of Canadian pigs remained mostly impervious to two antibiotics years after farmers stopped dosing the animals. This antibiotic resistance could eventually make its way into hospitals and the human food supply, although experts caution that no link has yet been approved.

Farmers regularly treat cattle, pigs, and chickens with antibiotics to dampen low-level infections that slow the growth of these animals. But wily bacteria quickly evolve resistance. Livestock farms often brim with resistant bugs that can pass to humans and potentially spread resistance to other microbes. Scientists hypothesized that if farmers stopped using the drugs, the bacteria would lower their defenses to save energy, eventually kicking out the DNA that codes for antibiotic resistance.

To figure out if this actually happens, ecologist Martin Chénier of McGill University and his colleagues examined bacteria on a university farm that in January 2007

banned all antibiotics, including two commonly used varieties: tylosin and chlortetracycline. They monitored gut bacterial populations in 10 pigs by searching for bacteria resistant to common drugs in their waste.

To the team's surprise, the entire bug community kept most of its armor against the antibiotics, even after 2 ½ years. When the researchers grew the bacteria in the lab, for example, 70% to 100% of them were still resistant to chlortetracycline when the pigs were slaughtered. "I didn't expect such high levels of resistance would remain," says Chénier, whose team will publish the results in the January issue of Microbial Ecology.

Tick Experts Urge Vigilance in Watching for the Disease-Carrying Pests

Those who monitor Maine's deer tick populations are calling 2011 an "average" year for the pests, but warn that, especially in the southern part of the state, the ticks still have a high likelihood of carrying serious diseases.

"A fairly high percentage of them are carrying around diseases," said Dr. Peter Rand of the Maine Medical Center Research Institute's Scarborough-based Vector-borne Disease Laboratory. "In southern Maine, as many as 60 percent of adults are carrying the Lyme disease bacteria." State Rep. Jim Dill, D-Old Town, is a pest management specialist in the University of Maine's Cooperative Extension program, and he said ticks flourish in wet weather and can be found 12 months a year.

Dill said the eight-legged bugs tend to crawl up on overgrown grass blades, hang on with their back six legs and leave their front two free to grab onto anything that passes by - like wild animals, household pets or humans. Deer ticks are most likely to be found where forested areas meet grassy areas, Dill said, and he drags an old white towel along the edges of his yard to monitor the tick population around his property.

"I use white just because it makes it easier to see them, and it's fuzzy, so it mimics the fur of a passing animal to them," he said. Rand said that, in addition to carrying Lyme disease bacteria, deer ticks can also be infected with other pathogens. People can also catch anaplasmosis and babesiosis from the ticks, he said, among other things. The two diseases are often felt through feverish symptoms, Rand said, and both can be fatal in certain circumstances.

Aerosols Transmit Prions to Mice, Causing Disease

Scientists at the University of Zurich (Switzerland) and the Federal Research Institute for Animal Health (FLI; Tuebingen) have challenged the notion that airborne prions are innocuous. Details of how inhalation of prion-tainted aerosols induced disease are published January 13 in the open-access journal PLoS Pathogens.
http://www.plospathogens.org/article/info%3Adoi%2F10.1371%2Fjournal.ppat.1001257

It is known that prions can be transmitted through contaminated surgical instruments and, more rarely, through blood transfusions. However, prions are not generally considered to be airborne - in contrast to many viruses such as influenza and chicken pox. In the new study, the authors housed immunodeficient and immunocompetent mice in special inhalation chambers and exposed them to prion-containing aerosols, which induced disease. Exposure to aerosols for one minute was sufficient to induce disease in 100% of mice. The longer the exposure, the shorter the incubation time in the recipient mice, after which they developed the clinical signs of a prion disease. These findings indicate that prions are airborne. Prions appeared to transfer from the airways and colonize the brain directly, since various immune system defects - known from previous experiments to prevent the passage of prions from the gut to the brain - did not prevent infection.

The prion is the infectious agent that caused the epidemic of "mad cow" disease, also termed bovine spongiform encephalopathy (BSE). BSE claimed the life of more than 280,000 cows in the past decades. Transmission of BSE to humans, e.g. by ingestion of food derived from BSE-infected cows, causes variant Creutzfeldt-Jakob disease which is characterized by a progressive and invariably lethal breakdown of brain cells. Consumption of food made from BSE-infected cows has caused the deaths of almost 300 people.

The precautionary measures against prion infections in scientific laboratories, abattoirs, and animal feed factories have not typically included stringent protection against aerosols. These new findings suggest that it may be advisable to consider the possibility of airborne prion transmission, and to create regulations aimed at minimizing the prion infection risks to humans and animals.